Ethics Related to the Adoption of Generative AI in Journalism: Systematic literature review in the Global North and Global South

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Abstract

Media and content companies around the world are increasingly adopting generative AI technologies in text and image production to improve work efficiency. This article seeks to analyze the impact of ethical concerns that often arise in research on journalism and its relation to generative AI and identify areas that require more attention from a human-machine communication perspective. Based on the analysis of 14 articles, commentary and essay published in academic journals from 2022 to June 2024, the following key themes were identified: 1) Bias; 2) Misinformation; 3) Copyright; 4) Accuracy; and, 5) Credibility as well as other matters such as 6) Media autonomy; also 7) Replaceable human jobs. There were very few publications related to transparency. In addition, the majority of publications identified in previous studies lack diversity in sample selection as they are concentrated on the global north. There is a need for more inclusive practices in the global south with a social and cultural approach. This will help close the research gap and developers of generative AI-based technologies can consider diverse data sources when designing tools to minimize long-term risks.

Keywords: Journalism, Generative AI, AI, Ethics, Global North, Global South, Human-machine Communication

INTRODUCTION

The use of generative AI in the media and content industry has become increasingly massive in recent years. Since the ChatGPT service, large language models (LLMs) were launched at the end of November 2022 (Milmo, 2023), Many media and content organizations are showing interest in this branch of artificial intelligence technology innovation to improve the work efficiency of their employees (Zagorulko, 2023).

LLMs that have been trained on a large scale have shown good performance in completing programming language tasks in natural language processing (NLP), such as answering questions, machine-based translation, and text generation (Pan et al., 2023). The result of this high-speed processing system provides convenience for most users, depending on the instructions, so that people who see it cannot distinguish AI-generated content from human-generated content (Groh et al., 2022).

In the media industry, a survey conducted by the Associated Press in 2022 said that leaders of media organizations agreed that they do not want

to be in a position to let artificial intelligence upload news on its own without humans knowing

the content of the published news. Generative artificial intelligence is considered the most suitable for filtering data, but interpreting that data is a human task (Rinehart & Kung, 2022).

Many studies on the use of generative AI technology in the newsroom have been carried out to find out the specific work process using the help of generative AI. However, most of the studies were conducted with journalist informants who were only concentrated in America and Europe. This geographical limitation means that the findings are not representative given the disparities related to the development and adoption of artificial intelligence globally (Beckett & Yaseen, 2023).

The social and economic benefits related to artificial intelligence are currently geographically concentrated, especially in the global north such as North America and China, which are considered to experience the largest increase in Gross Domestic Product (GDP) due to the effectiveness of their utilization (Yu et al., 2023). This is due to various reasons, such as the availability of technical infrastructure, an abundance of capital, and well-funded research institutions in these developed countries (Chan et al., 2021). Thus, to understand the collective benefits of AI technology in a balanced way, it is necessary to know that the global AI gap does exist.

Generative AI and Human-Machine Communication

Artificial intelligence (AI) has attracted a lot of attention across various disciplines and industries (Hyder et al., 2019). AI has been defined as a system's ability to correctly interpret external data, learn from that data, and use that learning to achieve specific goals and tasks through flexible adaptation (Kaplan & Haenlein, 2018). In recent years, AI has been a hot topic since the launch of ChatGPT, an artificial intelligence chatbot that is now popular at the end of 2022 (Milmo, 2023). ChatGPT belongs to a class of model languages (ML) called Generative Pre-trained Transformers (GPT). The GPT category refers to large language models (LLM) that use deep learning techniques for extensive training with very large amounts of data (Cascella et al., 2023).

Figure 1: Comparative perspectives of AI, machine learning, deep learning, and generative AI (Zhuhadar & Lytras, 2023)
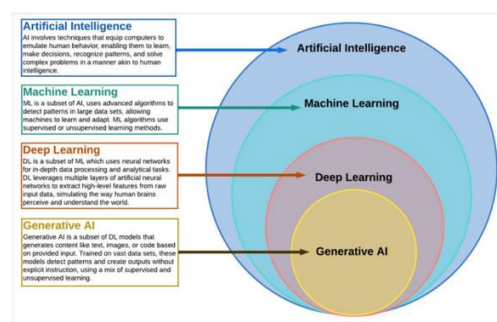
ChatGPT is specifically designed for use in the form of conversations to generate human-like responses utilizing its wealth of information and

knowledge. ChatGPT's capabilities are due to generative AI technology, a type of AI that can generate human-like text and creative content and consolidate data from various sources for analysis (Dasborough, 2023). Generative AI can generate multimodal content including and not only limited to text, audio, images, videos, and three-dimensional models called artificial intelligence generated content (AIGC).

Figure 2: Depiction of AIGC unimodal model and multimodal model. Unimodal models receive instructions from the same modality as the generated content modality, while multimodal models receive instructions across modalities and produce results from different modalities (Cao et al., 2018)
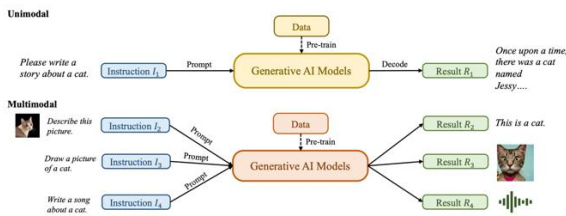
The goal of AIGC is to make the content creation process more efficient and accessible, allowing for the production of quality content at a higher speed (Cao et al., 2023). With the widespread adoption of generative AI, the ability to interact with AI efficiently and effectively is also one of the important things in literacy media. Therefore, it is very important for generative AI users to learn and use a command base called prompts. The term prompt refers to the instructions given to LLMs to implement rules, automate processes, and ensure certain quality and quantity specifications of something are produced. Prompts are also a form of programming that can customize results and interactions with LLMs. However, due to the ambiguity of human language, interactions between humans and machines through prompts can lead to errors and misunderstandings (Fui-Hoon Nah et al., 2023).

The emergence of generative AI related to the concept of human-machine communication is a new term in the last two decades because although communication is a formal field of study that is hundreds of years old, academics in this field define communication as human activity mediated by machines (McLuhan, 1994). With the advent of new technologies such as artificial intelligence and robotics, some communication experts are just beginning to try to create a theoretical framework to expand their application to the field of communication research (Guzman, 2018). Studies related to the creation of journalistic content are one such field. Lewis, Guzman and Schmidt (2019) argue that the reorientation of technology studies—from a theoretical approach in which a device is positioned as a mediator that transmits messages between humans to an approach in which technology is placed as a communicator—can also contribute to the study of automated journalism, and, thus, provide a new perspective on technologies that automate news and its implications (Lewis et al., 2019).

Human-machine communication emerged as a concept with a more specific scope of research than the concept of human-computer interaction which focuses on specific technologies related to communication theory. Different from other studies that place technology as a medium, the concept of human-machine communication is an analysis used to criticize technology designed as a communicator, which addresses its explicit and implicit messages. Thus, human-machine communication aims to explain how machines come into the role of communicators and how people conceptualize machines in their roles.

The most developed research related to automation news is machine-generated content (Araujo et al., 2020; Cools & Koliska, 2024; Lermann Henestrosa et al., 2023). Researchers often focus on messages in machine-generated news compared to human-generated content by pointing to the potential economic impact on media companies and possible ethical implications for professional standards. Studies show that machine-generated content "competes" with human-generated content. There is a small difference, particularly between the perception of readability and credibility of auto-generated content compared to news generated by human journalists which means that machine-generated content is not identical to human-written content, but similar enough to be a good enough alternative (Graefe et al., 2016).

The researcher argues that from the point of view of the human-machine communication concept,

generative AI benefits the global north because most generative AI platforms are made for English speakers so that their adoption is quite maximal, which has an impact related to ethics that needs to be reviewed further. Meanwhile, countries in the global south still have limitations in their adoption because they may not be in accordance with the existing cultural context. This makes countries in the global south have to catch up to create AI systems and also AI systems that work with the local cultural context. In addition, some countries in Southeast Asia such as Indonesia have limited funding opportunities that result in workers exploring the use of AI systems in journalistic work not optimally.

METHOD

The author conducted a systematic literature review analysis of articles – written in English and Indonesian – published in the form of articles, working papers, conference proceedings, essays, and commentary in published journals in 2022 to 2024 (at the time of writing). This period is determined by the author considering ChatGPT, a generative AI based platform launched in November 2022. Researchers searched Scopus, DOAJ, Google Scholar, and Sinta databases to find academic publications, using a combination of keywords, including: Generative AI; AI; Ethics; ChatGPT, Global South, Global North, media, and journalism.

Based on these parameters, the researcher found 20 articles. However, some articles discussing AI that are not specific to generative AI are then excluded. Meanwhile, some articles published in journals for the computer science and law clusters were later excluded. Finally, 14 articles were selected for analysis. The articles, working papers, essays and commentaries were analyzed and summarized to find key themes and draw general conclusions about the position of the global north and global south in responding to the adoption of generative AI technology according to the academic literature in the past two years, and identify which areas are in the adoption of generative AI in the world of journalism that requires special attention. As part of a systematic literature review, researchers also noted research methods, populations/samples, keywords, theories/concepts, and limitations.

RESULTS AND DISCUSSION

Ethics

Kees Bertens in his book "Ethics", divides the concept of ethics into three points; (1) the value system, (2) the code of ethics, and (3) the science that examines the good and the bad (Bertens, 2004). According to Haryatmoko, the dimension in the study of communication ethics is part of communication or political action. Ethical action does not only dwell on good and right problems, but also how to formulate values when a moral dilemma occurs (Haryatmoko, 2007). Thus, the

moral vision at the level of development must have a purpose (telos) in seeing the cultural aspects that continue to be eroded by the development of the times (Hakim et al., 2018). Thus, the ethical aspect of communication is very important in the adoption of generative AI in the creation of journalistic content. Generative AI systems have human-like capabilities, which means the boundaries between humans and machines are less transparent (Enholm et al., 2022).

Based on an analysis of 14 articles published in the form of articles, working papers, essays and comments in scientific journals in 2022-2024, all articles mention that one of the negative impacts or concerns about generative AI implications in the media industry is ethics. The ethical themes raised include:

1. **Bias** (Cools & Diakopoulos, 2024; Thomson et al., 2024)
2. **Misinformation** (Gondwe, 2023; Simon et al., 2023; Thomson et al., 2024)
3. **Copyright** (Gondwe, 2023; Kieslich et al., 2024; Kuai, 2024; Thomson et al., 2024)
4. **Accuracy** (Cools & Diakopoulos, 2024; Kieslich et al., 2024; Pavlik, 2023; Toff & Simon, 2023)
5. **Credibility** (Cools & Diakopoulos, 2024; Simon, 2022; Toff & Simon, 2023)

Meanwhile, the topic related to **transparency** is less explored in several related articles. In fact, a

global survey in 2023 examines how media and content organizations should demonstrate transparency in the articles generated by large language models, along with the needs, expectations, and rights of their audiences. The findings are that 52 international news organizations have published artificial intelligence guidelines, 90% of organizations mandate that the use of artificial intelligence should be disclosed, although 82% do not explicitly explain how this transparency should be communicated, with further differences for situations where transparency is required (Beckett & Yaseen, 2023). Meanwhile, the theme of media autonomy and its relationship with media companies and third-party platforms has been discussed quite a lot in previous research (Paik, 2023; Simon, 2022, 2023). For many organizations, the high cost of developing generative AI and the constraints in terms of competent human resources are the main reasons why organizations should rely on the products, services, and infrastructure provided by generative AI platforms (Simon, 2023). There are several scientific literature analyzed that show a consensus either implicitly or explicitly that in addition to its positive impact, generative AI has a negative impact on the media industry, namely that the technology can replace human work (Kieslich et al., 2024; Pavlik, 2023; Thomson et al., 2024; Wibowo Octavianto et al., 2024). The emergence of new technologies such as generative AI, which has only been two years old, is indeed considered to be able to cause a moral

panic (Simon et al., 2023). Industries that move to profit with the capitalist pattern are considered to be constantly undergoing changes and use tools to obtain profits in order to dominate the market by glorifying the use value that dominates information. So, capitalism provides and creates the process of industrialization of various things in the world in the current modern era (Injany, 2023).

Global North and Global South

Based on the 14 articles analyzed, there were 9 articles and working papers published in scientific journals that were analyzed using samples or informants from global northern countries. There are 2 scientific papers in the form of essays and comments that are also published by senior researchers in the global north using findings with perspectives in developed countries. In total, 11 articles, working papers, essays and commentaries were published using the logic of the global north. The majority of journal articles also mention that one of the weaknesses of the article is that the geographical scope of this research is limited to the territory of the global north country so the findings are not representative and therefore depend on the cultural context in the country (Cools & Diakopoulos, 2024; Kieslich et al., 2024; Kuai, 2024; Paik, 2023; Simon, 2023; Thomson et al., 2024; Toff & Simon, 2023).

Meanwhile, there are only 3 journal articles from the global south, namely Pakistan (Tariq et al.,

2024), Sub-Saharan Africa (Gondwe, 2023) and Indonesia (Wibowo Octavianto et al., 2024). Research related to journalism in Pakistan explains that the adoption of generative AI in Pakistan is fairly limited due to text results that are considered to lack context. Although generative AI has the facilities to collect and examine data, the technology does not understand the cultural and social context contained in it (Tariq et al., 2024). Another study related to ChatGPT in sub-Saharan Africa also said that this technology is non-representative because it cannot use every day common language there, so its effectiveness is limited in the region (Gondwe, 2023). These studies show that the absence of a corpus that is in accordance with the context of countries in the Southern Hemisphere makes journalists unable to fully rely on the presence of generative AI technology. It also emphasizes the need for competent human intervention to be able to provide relevant information to the tool, so contributing to the database needs to consider diverse sources when designing AI tools so as to minimize long-term risks. On the other hand, 1 research related to generative AI in Indonesia is more focused on the dominant narratives and themes surrounding ChatGPT and LLM in the mass media. His findings show that online media in Indonesia tend to portray generative AI positively by emphasizing the potential for innovation and economic growth. Research gaps related to the use of generative AI in the global north and global south have led most studies to highlight more concerns than opportunities when reflecting on the use of generative AI based tools (Kuai, 2024; Simon, 2023; Toff & Simon, 2023). This is because even though there is a code of ethics for journalism (Society of Professional Journalists, 2014) and code of conduct for AI (European Parliament, 2019), but there is no widely known code of conduct for the use of generative AI in journalism (Paik, 2023).

The study, conducted by researchers from the Hubbard School of Journalism & Mass Communication and the Oxford Internet Institute, presents the results of a new experiment conducted using journalistic content generated by generative AI. They found that the average audience perceives AI-assisted content as less trustworthy, less accurate and unbalanced news. This perception is mostly concentrated in audiences in the global north who have a high level of trust in journalism news (Toff & Simon, 2023). Meanwhile, based on the results of a 2023 Reuters Institute and University Oxford survey, public trust in mass media is only 40 percent globally, down 2 percent from the previous year. In Indonesia, the level of public trust has been relatively stagnant for the past 3 years, at 39 percent (Newman et al., 2023).

Based on the perspective of human-machine communication, machines are conceptualized as communicators who tend not to consider cultural contexts. The content of generative AI-based journalistic content is projected to influence the behavior of people who have a low level of trust in news or have minimal knowledge of

journalism that perpetuates shallow information in the production, consumption, and dissemination of messages among the public. The collaboration of generative AI and journalists is also projected to make it easier to create realistic but false or misleading content on a large scale. As a result, generative AI-based content has the potential to endanger people's beliefs and behaviors in the public information arena and democracy (Simon et al., 2023).

Table 1: List of journal articles, essays and arguments related to generative AI in the media industry during 2022 – 2024.

No	Year	Author	Title	Journal	Summary
1	2024	Octavianto, A.W., Priyonggo, A. & Setianto, Y. P.	Framing The Future: Exploring AI Narratives in Indonesian Online Media Using Topic Modelling	Jurnal Komunikasi Indonesia, 13(2), 172 –194.	**Objective:** Uncover the dominant narratives and themes surrounding AI, including depictions related to LLMs and ChatGPT. **Finding:** Indonesian online media tend to portray generative AI positively, emphasizing its potential for innovation and economic growth. However, there are concerns about ethical implications and job losses.
2	2024	Dalen, Arjen van	Revisiting the Algorithms Behind the Headlines. How Journalists Respond to Professional Competition of Generative AI	Journalism Practice, 1–18.	**Objective:** To find out whether journalists perceive generative AI as a challenge, journalists' strategies to remain relevant and the adoption of generative AI to the profession. **Finding:** Journalists argue that they should stay up-to-date as generative AI is integrated in news creation. The new technical possibilities of generative AI are not accommodated in the journalistic profession by expanding the understanding of journalism.
3	2024	Kieslich, K., Diakopoulos N., & Helberger N.	Anticipating impacts: using large-scale scenario-writing to explore diverse implications of generative AI in the news environment	Journalism Studies, 25(6), 662–680	**Objective:** To find out the expectations of three stakeholder groups (news consumers; technology developers; content creators) about the potential negative impacts of generative AI, as well as mitigation strategies to address them. **Finding:** The impact was seen on welfare, job loss, autonomy, copyright, media quality, security, trust, politics, social cohesion and knowledge.
4	2024	Cools, H., & Diakopoulos, N.	Uses of Generative AI in the Newsroom: Mapping Journalists' Perceptions of Perils and Possibilities	Journalism Practice, 1–19	**Objective:** To find out the specific work process, possible dangers and ethics of applying generative AI in journalistic work. **Finding:** Generative AI improves data efficiency and management but potential harm to the accuracy and credibility of journalism, as well as ethical considerations such as algorithmic bias.
5	2024	Kuai, Joanne	Unravelling Copyright Dilemma of AI-Generated News and Its Implications for the Institution of Journalism: The Cases of US, EU, and China	New Media & Society, Vol. 26(9) 5150-–5168	**Objective:** To find out which actors and practices are considered and the institutional order promoted in the copyright regime in relation to copyright protection of automated news **Finding**: In the United States, there is a silent policy. In the European Union, regulators enacted laws too early and patchwork policies that failed. In China, the state uses law and journalism to advance its own interests. These findings show that regulation leads to the weakening of copyright institutions, thus contributing to the deinstitutionalization

					of journalism and the institutionalization of algorithms.
6	2024	Thompson T. J., Thomas R. J., Matich P.	Generative Visual AI in News Organizations: Challenges, Opportunities, Perceptions, and Policies	Digital Journalism, 1–22	**Objective:** To find out the views of photo editors who use generative AI visuals in production and explain the challenges and opportunities seen from the technology. **Finding:** Misinformation/disinformation is a major challenge to generative AI-generated images, which also raises concerns about labor and copyright implications, difficulty or impossibility of detecting AI-generated images, potential algorithmic bias, and potential reputational risks to the use of AI-generated images. There is also the potential for the use of AI for illustration and brainstorming, while a small percentage see it as an opportunity to improve efficiency and cut costs.
7	2024	Tariq, M., Aslam, M. J., Shakoor, A., & Ilyas, S.	Artificial Intelligence and the Reshaping of Journalism	Qlantic Journal of Social Sciences, 5(1), 44–53	**Objective:** To analyze how AI is reforming, study the impact of AI on quality and find the penetration rate of AI in journalism in Pakistan. **Finding:** Despite having a transformational role in Pakistani journalism, the adoption of AI still requires certain considerations to raise the standard of journalism in a polarized society like Pakistan. Although Pakistani journalists are quite knowledgeable about AI technology, more instruction is needed on the moral implications of its application in journalism.
8	2023	Simon, F. M.	Escape Me If You Can: How AI Reshapes News Organisations' Dependency on Platform Companies	Digital Journalism, 12(2), 149–170	**Objective:** Explain the role of AI in reshaping publishers' reliance on platform companies. **Finding:** AI is reshaping publishers' reliance on platform companies by exacerbating existing dependencies on distribution and creating new dependencies on production. News organizations rely on platforms using AI for a variety of reasons, such as high development costs, lack of resources, and a different vision of their mission. The findings show that while the increased reliance on the platform is acknowledged, there is disagreement over its level and impact.
9	2023	Simon F. M., Altay S., & Mercier, H.	Misinformation reloaded? Fears about the impact of generative AI on misinformation are overblown	Commentary, Harvard Kennedy School (HKS) Misinformation Review, Volume 4(5)	**Objective:** Determine the impact of emerging concerns about increasing quantity, quality, and personalization of misinformation. **Finding:** Current concerns about the impact of generative AI on the misinformation landscape are overblown.
10	2023	Toff, B. & Simon F. M.	"Or they could just not use it?": The Paradox of AI Disclosure for Audience Trust in News	Working paper	**Objective:** To determine the level of public trust in auto-generated news labeled with AI-generated content. **Finding:** Audiences find news labeled as AI results to be less trustworthy, even for articles that aren't evaluated as less

					accurate or unfair. This impact is mostly concentrated in those whose level of trust in the news is already higher from the start and shows a higher level of knowledge about journalism.
11	2023	Paik, Sejin	Journalism Ethics for the Algorithmic Era	Digital Journalism, 1–27	**Objective:** To explain the interaction of journalists and machines and explore new ways to redesign journalistic ethical standards through an integrative and object-oriented approach. **Finding:** There are various issues related to decontextualization in algorithmic platform design, partnerships with platforms, and reliance on automation tools that foreshadow ethical issues.
12	2023	Gondwe, Gregory	CHATGPT and the Global South: how are journalists in sub-Saharan Africa engaging with generative AI?	Online Media Glob. Commun. 2023; 2(2): 228–249	**Objective:** To explore the use of generative AI tools by journalists in sub-Saharan Africa, focusing on the issues of misinformation, plagiarism, stereotypes, and the unrepresentative nature of online databases. **Finding:** Generative AI like ChatGPT operates on a limited and unrepresentative African corpus, being selective in selecting language that is considered polite and irreverent, thus limiting its effectiveness in the region. In the absence of a representative corpus, generative AI tools like ChatGPT present challenges for effective journalism practices because journalists cannot fully rely on such tools.
13	2023	Pavlik, John V.	Collaborating With ChatGPT: Considering the Implications of Generative Artificial Intelligence for Journalism and Media Education	Essay, Journalism & Mass Communication Educator 2023, Vol. 78(1) 84-–93	**Objective:** Demonstrate the capacity and limitations of ChatGPT and offer reflections on the implications of generative AI for journalism and media education. **Finding:** There are substantial limitations to AI's capabilities, including the reach and depth of its knowledge critically or creatively. Generative AI platforms like ChatGPT reflect the ability to pass the Turing Test and therefore can pose a threat to journalists and media professionals.
14	2022	Simon, Felix M.	Uneasy Bedfellows: AI in the News, Platform Companies and the Issue of Journalistic Autonomy	Digital Journalism,10(10), 1832–1854	**Objective:** To analyze the role and related aspects of AI control, dependence, and autonomy in news. **Finding:** News organizations risk becoming more attached to platform companies in the long run, potentially limiting their autonomy, as a result, contributing to the restructuring of the public arena as news organizations are reshaped according to the platform's business logic.

Table 2: Comparison of methodologies, populations, keywords, theoretical concepts and limitations

No	Method	Population/Sample	Keywords	Theory/Concept	Limitation/Recommendation
1	Content analysis	Articles with the keywords "artificial intelligence", "artificial intelligence", "chatgpt", "generative ai", and "large language" models in online media Detik.com, Kompas Online, and CNN Indonesia	Artificial intelligence, Framing analysis, Topic modeling, Online media, Perception of Indonesian AI	Social Construction of Technology (SCOT)	• Limited to the identification of various AI interpretations presented through mass media. The relevant social groups have not been well mapped. • Further research should expand the scope of culture and media, as well as a detailed investigation of how media framing affects public understanding and policy related to AI.
2	Content analysis	76 relevant newspaper articles, journalistic trade magazine publications, and blogs were taken from LexisNexon June 26, 2023, using the keyword "ChatGPT AND journalis*" in the domains of News-papers, Newswires & Press Releases, Industry Trade Press, Magazines, Webnews, and Blogs for the period November 29, 2022 to January 1, 2023.	Generative AI, ChatGPT; journalism; profession; automatic news writing; skills; boundary work	Sociological perspectives of the profession and boundary work	• The analysis reflects the reaction of journalists in the first month after the launch of ChatGPT. This can foster an excessive level of confidence in their expectations of technology, while at the same time potentially leading to underestimating the impact of technology on the profession in the long run.
3	Online surveys	Integrated scenario writing exercise, a sub-sample of EU residents, content creators, and technology developers	Generative AI; News environment; Anticipatory governance; Scenario-writing; Thematic analysis	Anticipatory governance	• The sample was only concentrated on EU citizens, white and highly educated and ignored marginalized communities. • Consideration of socio-demographic factors and those related to AI has an influence on emerging scenarios.
4	Semi-structured interviews	15 journalists in the Netherlands and Denmark with an average age of 29.7 years. Almost all sample members have a master's degree and have a background in	Computational journalism; digital media; human-machine communication; Innovation; Responsible AI; generative AI.	Computational journalism	• The geographical scope of the study is limited to journalists in the Netherlands and Denmark which means the findings are not representative and therefore depend on the context of the Dutch and Danish news media studied.

		journalism, computer science, or both.			
5	Multi-case study	Doctrinal legal analysis of copyright law and analysis of policy reports, corporate responses, and other empirical evidence in the United States, the European Union and China.	AI governance, authorship, computer-generated works, copyright law, intellectual property, journalism innovation, new institutionalism	Institutional in sociology	• The number of cases is less diverse. • It does not examine cross-border information flows, especially AI translation, which removes language barriers as a territorial characteristic of copyright. • The findings are only temporary.
6	Interview	20 photo editors from 16 news organizations in Australia, France, Germany, Norway, Switzerland, the United Kingdom, and the United States	AI-generated images; AI in newsrooms; generative visual AI; Midjourney; journalism innovation; Text to Image Generator	Visual news, the role of visual editors, policy development related to generative AI	• The sample is only representative of actors in the news ecosystem in the Global North, where the study authors live, work, and build connections
7	Interview	15 journalists were selected using the purposive sampling technique.	Artificial intelligence, journalism, AI tools, automation	Jurnalisme AI	• Adoption of AI in Pakistan is still limited and the ethical implications are inadequate • AI ethics training is inadequate
8	Multi-case study	Interviews with 121 media workers at 33 leading publishers in the US, UK, and Germany, as well as 31 expert interviews, and secondary material	AI; artificial intelligence; Self-government; isomorphism; journalism; LLM; news; platform	Institutional isomorphism theory	• Sample is not representative and only focuses on the Global North so it does not reflect the media perspective of the Global South.
9	Literature review	A collection of four arguments related to the impact of generative AI on misinformation, from the latest journals, news articles, and social media.	-	Moral panic against new technology	• The evidence comes from the media environment in advanced democracies with rich and competitive media ecosystems.
10	Experiment	1483 participants who were domiciled in the United States and spoke English.	Artificial Intelligence, AI, Generative AI, Journalism, LLM, News, Trust	Audience attitudes towards algorithmic technology and AI	• Focus only on the context in the United States • The sample is more educated, more liberal, and more digitally savvy than the general public
11	In-depth interviews	16 local newsroom editors in different	Journalism ethics; AI	In Etika Journalism,	• Focus only on media in the US

		regions of the U.S. The SPJ code of ethics book is used as an interview guide question to determine its impact on the production and distribution process of local news workers.	ethics; local news; onlife framework; algorithmic journalism; algorithmic design; journalist-machine interaction; Distributed Responsibilities	Actor-Network Theory, OnLife Framework (Floridi, 2014)	• Addressing issues related to the public, politics, and the role of journalism in an ever-changing landscape requires a re-evaluation of ethical standards and consideration of the adoption of a distributed responsibility model.
12	Interview	17 Journalists in sub-Saharan African countries such as Congo, DRC, Kenya, Tanzania, Uganda and Zambia.	ChatGPT; Generative AI; in-depth interviews; journalism; Nvivo; Sub-Saharan Africa	ChatGPT and Global South, ChatGPT in journalism	The study further examined other variables, such as the existence of a free press, surveillance practices, and privacy issues, to provide a more comprehensive understanding.
13	ChatGPT response	Questions and commands are written by humans, and responses are by ChatGPT. Behind each ChatGPT statement is the date of each question and response.	Information Communication Technology, Journalism and Mass Communication Education, technology, undergraduate education, media, knowledge, journalism, information processing, data journalism, critical thinking	-	Further research is needed to systematically investigate, assess, and critically examine generative AI systems such as ChatGPT and evaluate their relevance to journalism and media education.
14	Literature review	Mapping of research agendas related to the role of AI platform companies in news.	AI; news; journalism; platform companies; Self-government; public arena; Gatekeeping	Gatekeeping, Teori Dependensi, News autonomy	-

CONCLUSION

Since its launch in November 2022, research related to the adoption of generative AI in the field of journalism has continued to grow. Based on the perspective of human-machine communication, the adoption of generative AI in newsrooms has both positive and negative impacts. However, one of the most highlighted concerns is related to ethics. The most raised ethical themes are copyright, accuracy, misinformation and bias. Meanwhile, themes related to transparency have not been explored much by researchers. Besides, another issue of concern that intersects with ethics is the autonomy of the media that will depend on the platform and the work of the human being replaced.

Meanwhile, the majority of research comes from the global north region which is already aware of the negative impact of technology from an ethical perspective. Journalism research related to generative AI originating from the global south is still limited. Previous studies in the global south region show that the absence of a corpus that is in accordance with the context of countries in the Southern Hemisphere makes journalists unable to fully rely on the presence of generative AI technology. Competent human intervention to be able to provide relevant information to the tool. Thus, global databases can consider diverse data sources when designing AI tools to minimize long-term risks. In the future, journalism research related to generative AI in the global south such

as Indonesia can further explore matters related to social and cultural that can provide a more comprehensive understanding of the value of generative AI in media work.

REFERENCES

Araujo, T., Helberger, N., Kruikemeier, S., & de Vreese, C. H. (2020). In AI we trust? Perceptions about automated decision-making by artificial intelligence. AI & SOCIETY, 35(3), 611–623. https://doi.org/10.1007/s00146-019-00931-w

Beckett, C., & Yaseen, M. (2023). Generating Change: A global survey of what news organisations are doing with AI. JournalismAI, Polis, Department of Media and Communications, The London School of Economics and Political Science. https://www.journalismai.info/research/2023-generating-change

Bertens, K. (2004). Etika. Gramedia.

Cao, Y., Li, S., Liu, Y., Yan, Z., Dai, Y., Yu, P. S., & Sun, L. (2023). A Comprehensive Survey of AI-Generated Content (AIGC): A History of Generative AI from GAN to ChatGPT. http://arxiv.org/abs/2303.04226

Cao, Y., Liu, Y., Yan, Z., Dai, Y., Yu, P. S., Li, S., & Sun, L. (2018). A Comprehensive Survey of AI-Generated Content (AIGC): A History of Generative AI from GAN to ChatGPT; A Comprehensive Survey of AI-Generated Content (AIGC): A History of Generative AI from GAN to ChatGPT. In J. ACM (Vol. 37, Issue 111). https://doi.org/XXXXXXX.XXXXXXX

Cascella, M., Montomoli, J., Bellini, V., & Elena, B. (2023). Evaluating the Feasibility of ChatGPT in Healthcare: An Analysis of Multiple Clinical and Research Scenarios. Journal of Medical Systems, 47. https://doi.org/10.1007/s10916-023-01925-4

Chan, A., Okolo, C. T., Terner, Z., & Wang, A. (2021). The Limits of Global Inclusion in

AI Development.
http://arxiv.org/abs/2102.01265

Cools, H., & Diakopoulos, N. (2024). Uses of Generative AI in the Newsroom: Mapping Journalists' Perceptions of Perils and Possibilities. Journalism Practice, 1–19. https://doi.org/10.1080/17512786.2024.2394558

Cools, H., & Koliska, M. (2024). News Automation and Algorithmic Transparency in the Newsroom: The Case of the Washington Post . Journalism Studies, 1–19. https://doi.org/10.1080/1461670x.2024.2326636

Dasborough, M. (2023). Awe-inspiring advancements in AI: The impact of ChatGPT on the field of Organizational Behavior. 44, 177–179. https://doi.org/10.1002/job.2695

Enholm, I. M., Papagiannidis, E., Mikalef, P., & Krogstie, J. (2022). Artificial Intelligence and Business Value: a Literature Review. Information Systems Frontiers, 24(5), 1709–1734. https://doi.org/10.1007/s10796-021-10186-w

European Parliament. (2019, September). EU guidelines on ethics in artificial intelligence: Context and implementation. Https://Www.Europarl.Europa.Eu/. https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/640163/EPRS_BRI(2019)640163_EN.pdf

Fui-Hoon Nah, F., Zheng, R., Cai, J., Siau, K., & Chen, L. (2023). Generative AI and ChatGPT: Applications, challenges, and AI-human collaboration. In Journal of Information Technology Case and Application Research (Vol. 25, Issue 3, pp. 277–304). Routledge. https://doi.org/10.1080/15228053.2023.2233814

Gondwe, G. (2023). CHATGPT and the Global South: how are journalists in sub-Saharan Africa engaging with generative AI? Online Media and Global Communication, 2(2), 228–249. https://doi.org/10.1515/omgc-2023-0023

Graefe, A., Haim, M., Haarmann, B., & Brosius, H.-B. (2016). Readers' perception of computer-generated news: Credibility, expertise, and readability. Journalism, 19(5), 595–610. https://doi.org/10.1177/1464884916641269

Groh, M., Sankaranarayanan, A., Singh, N., Kim, D. Y., Lippman, A., & Picard, R. (2022). Human Detection of Political Speech Deepfakes across Transcripts, Audio, and Video. https://doi.org/https://doi.org/10.48550/arXiv.2202.12883

Guzman, A. L. (2018). Human-Machine Communication. In Rethinking Communication, Technology, and Ourselves. Peter Lang Verlag. https://doi.org/10.3726/b14414

Hakim, L., Putro, W. E., & Rusmana, D. S. A. R. (2018). Etika Komunikasi dalam Mitigasi Bencana Berbasis Kearifan Lokal; Tradisi Temanten Kucing Desa Pelem, Kecamatan Campurdarat, Kabupaten Tulungagung. Jurnal Representamen, 4(2). https://doi.org/https://doi.org/10.30996/representamen.v4i02.1739

Haryatmoko. (2007). Etika Komunikasi: Manipulasi Media, Kekerasan, dan Pornografi. Kanisius.

Hyder, Z., Siau, K., & Nah, F. (2019). Artificial Intelligence, Machine Learning, and Autonomous Technologies in Mining Industry. Journal of Database Management, 30. https://doi.org/10.4018/JDM.2019040104

Injany, E. (2023). Tayangan Indonesia Lawyers Club (ILC) Sebagai Produk Industri Budaya. Jurnal Representamen, 9(01), 1–8. https://doi.org/10.30996/representamen.v9i01.8210

Kaplan, A., & Haenlein, M. (2018). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. Business Horizons, 62. https://doi.org/10.1016/j.bushor.2018.08.004

Kieslich, K., Diakopoulos, N., & Helberger, N. (2024). Anticipating impacts: using large-scale scenario-writing to explore diverse implications of generative AI in the news environment. AI and Ethics.

https://doi.org/10.1007/s43681-024-00497-4

Kuai, J. (2024). Unravelling Copyright Dilemma of AI-Generated News and Its Implications for the Institution of Journalism: The Cases of US, EU, and China. New Media & Society, 26(9), 5150–5168. https://doi.org/10.1177/14614448241251798

Lermann Henestrosa, A., Greving, H., & Kimmerle, J. (2023). Automated journalism: The effects of AI authorship and evaluative information on the perception of a science journalism article. Computers in Human Behavior, 138, 107445. https://doi.org/https://doi.org/10.1016/j.chb.2022.107445

Lewis, S. C., Guzman, A. L., & Schmidt, T. R. (2019). Automation, Journalism, and Human–Machine Communication: Rethinking Roles and Relationships of Humans and Machines in News. Digital Journalism, 7(4), 409–427. https://doi.org/10.1080/21670811.2019.1577147

McLuhan, M. (1994). Understanding Media: The Extensions of Man. MIT Press.

Milmo, D. (2023, February 2). ChatGPT reaches 100 million users two months after launch. The Guardian. https://www.theguardian.com/technology/2023/feb/02/chatgpt-100-million-users-open-ai-fastest-growing-app

Newman, N., Fletcher, R., Eddy, K., Robertson, C. T., & Nielsen, R. K. (2023). Reuters Institute Digital News Report 2023. https://doi.org/10.60625/risj-p6es-hb13

Paik, S. (2023). Journalism Ethics for the Algorithmic Era. Digital Journalism. https://doi.org/10.1080/21670811.2023.2200195

Pan, S., Luo, L., Wang, Y., Chen, C., Wang, J., & Wu, X. (2023). Unifying Large Language Models and Knowledge Graphs: A Roadmap. IEEE Transactions on Knowledge and Data Engineering, 1–20. https://doi.org/10.1109/TKDE.2024.3352100

Pavlik, J. V. (2023). Collaborating With ChatGPT: Considering the Implications of Generative Artificial Intelligence for Journalism and Media Education. Journalism & Mass Communication Educator, 78(1), 84–93. https://doi.org/10.1177/10776958221149577

Rinehart, A., & Kung, E. (2022). Artificial Intelligence in Local News: A survey of US newsrooms' AI readiness. https://doi.org/10.13140/RG.2.2.16926.82246

Simon, F. M. (2022). Uneasy Bedfellows: AI in the News, Platform Companies and the Issue of Journalistic Autonomy. Digital Journalism, 10(10), 1832–1854. https://doi.org/10.1080/21670811.2022.2063150

Simon, F. M. (2023). Escape Me If You Can: How AI Reshapes News Organisations' Dependency on Platform Companies. Digital Journalism, 12(2), 149–170. https://doi.org/10.1080/21670811.2023.2287464

Simon, F. M., Altay, S., & Mercier, H. (2023). Misinformation reloaded? Fears about the impact of generative AI on misinformation are overblown. In Harvard Kennedy School Misinformation Review (Vol. 4, Issue 5). Harvard Kennedy School. https://doi.org/10.37016/mr-2020-127

Society of Professional Journalists. (2014, September 6). SPJ Code of Ethics - Society of Professional Journalists. Https://Www.Spj.Org/Ethicscode.Asp.

Tariq, M., Aslam, M. J., Shakoor, A., & Ilyas, S. (2024). Artificial Intelligence and the Reshaping of Journalism. Qlantic Journal of Social Sciences, 5(1), 44–53. https://doi.org/10.55737/qjss.664034289

Thomson, T. J., Thomas, R. J., & Matich, P. (2024). Generative Visual AI in News Organizations: Challenges, Opportunities, Perceptions, and Policies. Digital Journalism. https://doi.org/10.1080/21670811.2024.2331769

Toff, B., & Simon, F. M. (2023). "Or they could just not use it?": The Paradox of AI Disclosure for Audience Trust in News. https://doi.org/https://doi.org/10.31235/osf.io/mdvak

Wibowo Octavianto, A., Priyonggo, A., Panji
Setianto, Y., Wibowo, A., & Panji, Y.
(2024). Framing The Future: Exploring AI
Narratives in Indonesian Online Media
Using Topic Modelling. Jurnal Komunikasi
Indonesia, 13(2).
https://doi.org/10.7454/jkmi.v13i2.1245

Yu, D., Rosenfeld, H., & Gupta, A. (2023,
January 16). The 'AI divide' between the
Global North and the Global South.
Https://Www.Weforum.Org/.

Zagorulko, D. I. (2023). ChatGPT in Newsroom:
Adherence of AI-Generated Content to
Journalism Standards and Prospects for Its
Implementation in Digital Media.
"Scientific Notes of V. I. Vernadsky
Taurida National University", Series:
"Philology. Journalism," 2(1), 319–325.
https://doi.org/10.32782/2710-
4656/2023.1.2/50

Zhuhadar, L. P., & Lytras, M. D. (2023). The
Application of AutoML Techniques in
Diabetes Diagnosis: Current Approaches,
Performance, and Future Directions.
Sustainability (Switzerland), 15(18).
https://doi.org/10.3390/su151813484